ArcControl 1024

USER MANUAL - ADVANCED SETUP

Version: 1.0

ArcControl 1024

For basic setup see separate PDF on CD.

**Configuring the DMX controller for the First Time
(without using the Quick Setup Assistant)**

Now that you've seen how the controls work, and how to reach the configuration menu it's time to make the DMX controller do something useful.

This is most easily achieved using the Quick Setup Assistant (see printed User Guide), however if you want to create your own custom configuration then you need to follow the following four steps:

Tell the DMX controller what fixtures are connected to it

Define Scenes to give the moods, levels or colours that you want

If required, define sequences to give movement to your scenes

Define triggers to make scenes or sequences happen

Scenes may be copied to make other scenes, and a special Ripple Copy function enables the rapid creation of colour-chase sequences.

Defining Fixtures

The first thing that we need to do is to tell the DMX controller what fixtures are connected to it, so that it knows that to control.
From the *Configuration* menu select the *Fixtures* option:

To add a new fixture:

☞ Select Add New Fixture

Configuration		Fixtures	
Fixtures	❯	**Fixture List**	❯
Scenes	❯	Add New Fixture	❯
Sequences	❯		
Triggers	❯		

You need to tell the DMX controller which DMX universe the fixture is connected to, and what the DMX start address is to be.

If you wanted to edit the address of existing fixtures you would choose *Fixture List* to view and edit fixtures that have already been added to the system.

Add New Fixture		Wall
Name	**Fixture** ❯	1 2 3 4 5 6 7 8 9 0
Type	Generic DMX Dimmer ❯	A B C D E F G H I J
		K L M N O P Q R S T
		U V W X Y Z ⌴ ⬅

☞ Select *Add New Fixture* to add new fixtures to the DMX controller
Give the fixture a name (this would normally be something descriptive about where the fixture is located, and what it's purpose is, for example "Wall Wash Left" or "Cove Colour Centre" etc.

☞ To edit the fixture name, make sure the Name option is highlighted then press *Select*. See page 15 for details of using the text editor.

When you have set the name you want press *Back* to return to the *Add New Fixture* menu, as shown above.

The type of fixture is selected from a pre-programmed library of fixtures that is built into the DMX controller:

Scroll down to the *Type* option and press *Select*.

Add New Fixture
Fixture
Type   >
Generic RGB
Port [DMX Universe A]   >

Fixture Type
Generic Dimmer
Generic Single Channel
✔ Generic RGB
Generic RGBD

Scroll down to the fixture type that you want to use and press *Select* to tick that fixture.

Once you have selected the type of fixture that you want press *Back* to return to the *Add New Fixture* menu, as shown above.

To choose which of the DMX ports the fixture is to be added to highlight *Port* and press *Select*.

Add New Fixture
Type   >
Generic RGB
Port [DMX Universe A]   >
Start Channel   37

Output Port
DMX Universe 1
✔ DMX Universe 2

Add New Fixture
Analogue Dimmer
Port [Analogue Outputs] >
Start Channel   1
Number to Add   1

Add New Fixture
Generic DMX Dimmer
Port [DMX Universe 1]   >
Start Channel   25
Number to Add   1

To set the *Start Channel* of the DMX fixture:

☞ Move the scroll wheel to the Start Channel option.

☞ Press the *Select* button.

The start channel number itself will be highlighted.

☞ Use the Scroll Wheel to select the actual value required.

☞ When you have the start channel number that you want press *Select*.

You can add multiple fixtures at the same time using the *Number* to *Add* option.

To Add Several Fixtures of This Type at Once

Scroll down to the Number to Add option, and press Select.

Add New Fixture

~~Port [DMX Universe 1]~~	➤
Start Channel	28
Number to Add	**1**
....	
Add…	

Add New Fixture

~~Port [DMX Universe 1]~~	➤
Start Channel	37
Number to Add	**8**
....	
Add…	

The number is highlighted, and you can used the scroll wheel to adjust the value.
When you have the number you want press *Select* to confirm, or press *Back* to cancel.

If you add more than one fixture then they will be placed sequentially on the DMX universe.

Add The Fixture(s)

When you have set all of the parameters that you need, scroll down to highlight the *Add…option* and then press *Select.*

Add New Fixture

~~Port [DMX Universe 1]~~	➤
Start Channel	28
Number to Add	1
....	
Add…	

The new fixture(s) will be added to the project.

Testing a DMX Fixture

To test a DMX fixture select *Fixtures* from the *Configuration* menu:

Configuration

Setup Assistant	➤
....	
Fixtures	➤
Scenes	➤

Select *Fixture List* to display a list of fixtures that have been defined:

Fixtures

Fixture List	➤
Add New Fixture	➤

Fixture List

➕	~~Generic RGB A1~~
	Generic RGB A2
✖	**Generic RGB A3**
✐	Generic RGB A4

Press the *Edit* soft key (✐) to select the fixture that you want to test.

Edit Fixture

Name	›
Generic RGB A3	
Port [DMX Universe A]	›
Start Channel	7

Use the scroll wheel to highlight *Test Fixture* which is a the bottom of the menu.

Edit Fixture

~~Mode Colour Tran A1~~	
Port [DMX Universe 1]	›
Start Channel	1
....	
Test Fixture	›

Press *Select* to show the current output levels of the DMX channels that the fixture is using.

1 Red

i
₽±
↕
: 128   0   0
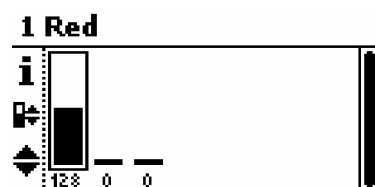
Use the scroll wheel to change the level of the channel that is highlighted.

Use *Select* to move to the next channel.

Use the (**i**) soft-key to change the menu's title between the whole fixture name and the name of the individual channel being adjusted

1 Red

i
₽±
↕
: 128   0   0

1 Generic RGB A3

i
₽±
↕
: 128   0   0
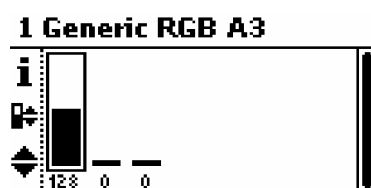
When you have finished press *Back* to return to the Edit Fixture menu.

See also: there is a feature on the *Test DMX Universe* screen to flash any channel, so that you can locate the fixture which is on that channel.

Defining Scenes

A scene is group of target levels for a group of channels.

A scene may contain as many or as few of the channels in the fixtures as you need. Therefore each scene does not have to define the level of every DMX channel.

☞ From the Configuration Menu select the Scenes option:
To add a new scene:

Configuration

Fixtures ›
Scenes ›
Sequences ›

Scenes

Scene List ›
Create Scene ›
Copy Scene ›
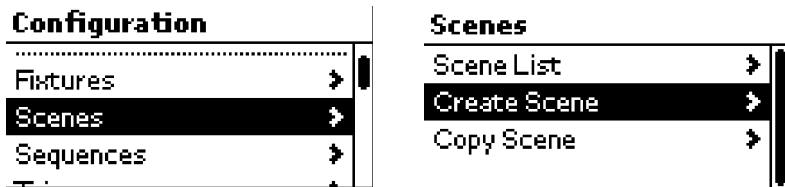
☞ Select Create Scene option

Create Scene

Name
    Scene ›
Fixtures ›
Fade Time 00:00:01 ⁰⁰
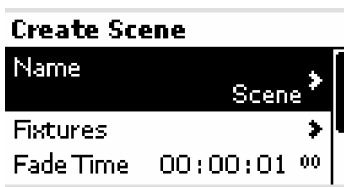
Each scene created should have a name. See page 15 for details of using the text editor to set the text of names.

Next you need to select which fixtures are to be controlled in this scene:

☞ Select the Fixtures option from the *Create Scene* menu.

Create Scene

Name
    Scene ›
Fixtures ›
Fade Time 00:00:01 ⁰⁰

Fixtures

✔ Generic RGB A1 ›
✔ Generic RGB A2 ›
✔ Generic RGB A3 ›
✔ Generic RGB A4 ›
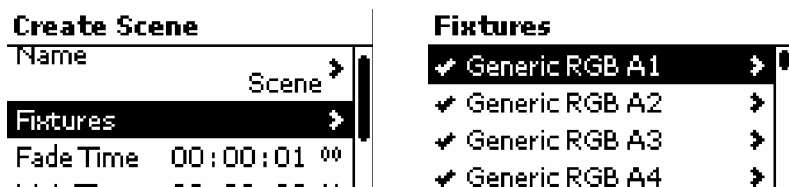
Each fixture that is ticked will be controlled by this scene. Other fixtures will be unaffected when the scene is recalled.

Setting Channel Levels

Once you have selected the fixtures to be controlled, then for each fixture you need to select which channels are to be controlled by the scene, and what their target level should be (i.e. the level to which the channel will fade over the scene's fade time).

From the *Fixtures* list press *Select* to edit the fixture's levels within the scene:

Red

Use the scroll wheel to change the level of the channel which is highlighted.

To move to the next channel press *Select.*

Including/Excluding Channels from the Scene
Channels within the fixture that are controlled are shown in black, channels which will not be changed by the scene are shown in a hatched pattern.

To toggle the selected channel between being included / excluded use the ▣ soft-key (in the middle).

Set the Scene's Fade Time
Next define the scene's fade time. The fade time is the amount of time it will take to fade from whatever the current levels are to reach the target levels.

Create Scene

Fixtures	➤
Fade Time	00:00:**08** ⁰⁰
Wait Time	00:00:00 ⁰⁰

To edit the scene's fade time:

☞ Use the scroll wheel to change the value

☞ Use the select button to choose the value

Note: The *Wait Time* option is used when scenes are put into a sequence, and it enables a delay with no fade between consecutive scenes.

☞ When you have finished defining the scene select the *Add…* option

Create Scene

Fade Time	00:00:01 ⁰⁰
Wait Time	00:00:00 ⁰⁰
Add…	

The scene that you have created can be recalled from the *Scenes* menu from the main menu. Alternatively it can be added to a favourite and then attached to one of the triggers.
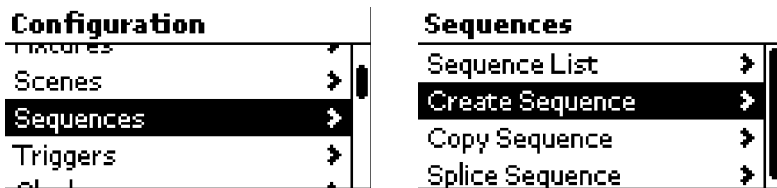
Copying Scenes

There are five methods that can be used to copy a scene.

| Copy Name		Function
Duplicate		Creates a number of exact copies of the scene
Copy with Uniform Value		Creates copies of the scene, with all channels changed to the value specified. This is particularly useful for creating an "Off" scene from an existing scene.
Copy Scaled		Creates copies of the scene, with all channels proportionally scaled by the value given. Useful for creating a dimmer/brighter version of a scene.
Copy Rippled		Creates a copy of the scene, but with channels shifted across by a certain number of channels. This is very useful creating sequences of colours where you have an array of fixtures of the same type.
Fixture Ripple		Creates a copy of the scene, but intelligently matches the function of channels within fixtures so that they can ripple one to another.

Define Sequences

To define sequences select the *Sequences* menu from the *Configuration* menu.

Menu Item	Function
Sequence List	Gives a list of all the sequences that have already been defined
Create Sequence	Creates a new sequence by selecting scenes that have already been created and assigning cross-fade times to them.
Copy Sequence	A number of methods of duplicating a sequence in order to create new sequences
Splice Sequence	Join existing sequences together to create one longer sequence.

Creating a New Sequence

Select the *Create Sequence* option from the menu above.
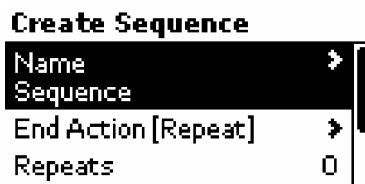
The sequence name may be edited by selecting it, and using the text editor in the normal way.

Once the scenes that form the sequence have all taken place the sequence can automatically perform one of a number of "end actions":
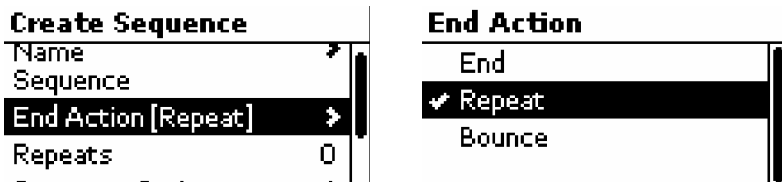
End Action	Function
End	Sequence stops after all scenes have taken place
Repeat	Scenes will be recalled from first to last again
Bounce	Scenes will be recalled from first to last, then last to first, then first to last. The number of transitions through the sequence is defined by the number of Repeats

The number of times the sequence recalls the scenes that make it up is defined by the number of *Repeats*.

Create Sequence
End Action [Repeat] ➤
Repeats   0
Sequence Script   ➤

A value of 0 will cause the sequence to repeat endlessly until it is specifically stopped.

The Sequence Script

The *Scenes* that are recalled by a *Sequence* and the order in which they are recalled is defined by the *Sequence Script.*

Create Sequence
End Action [Repeat] ➤
Repeats   0
Sequence Script   ➤
Add…

Sequence Script
+

Use the + button to add a new scene (or a sequence) to the script.

Add Scene
Aquamarine
Black
Blue
Chartreuse

Sequence Script
+ 1. Blue
✖

To remove a scene (or sequence) from the script highlight the step, and press the (**x**) button.

Notes:
It is permitted to include a sequence as part of a sequence's script. However be careful not to use a sequence which will never end. Also be careful not to create an "infinite loop" where two or more nested sequences recall each other.

Rear Terminals Setup

DMX controller has three pairs of terminals on the rear which may be independently configured to provide either a contact-closure input, or a 0-10V Analogue Output. To configure these terminals highlight *Rear Terminals Setup* on the *Configuration* menu, and press *Select*:
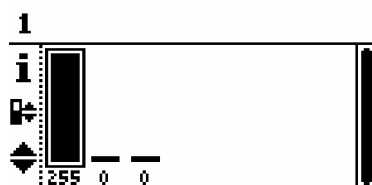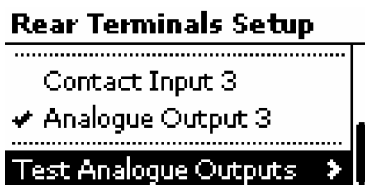
Configuration
~~Network Setup~~
DMX Setup ›
Rear Terminals Setup ›
Sound-to-Light Setup ›
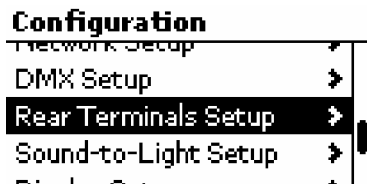
Each of the three terminals may be set as either a Contact Input or as an Analogue Output:

Rear Terminals Setup
✔ Contact Input 1
  Analogue Output 1
✔ Contact Input 2

Rear Terminals Setup
✔ Contact Input 1
  Analogue Output 1
✔ Contact Input 2
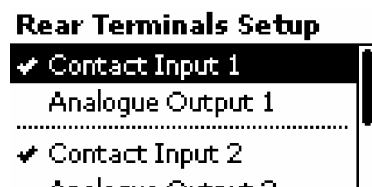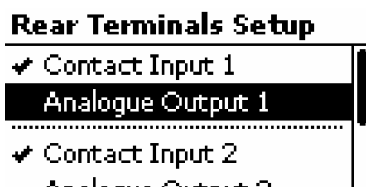
To change the selection, highlight the option that you need, and press Select to tick the new item.

Testing Analogue Outputs

If one or more of the configurable terminals are set as analogue outputs then the fixture attached may be tested. Scroll down to the bottom of the menu, and select *Test Analogue Outputs:*

Rear Terminals Setup
  Contact Input 3
✔ Analogue Output 3
Test Analogue Outputs ›

1
i
▶⁘
▲▼
255 0 0

When the terminals are set up as required press *Back* to return to the *Configuration* menu.
**Notes:**
When using the terminals as Analogue Outputs, the "mute" button (bottom left) which puts all DMX outputs to zero will also cause 0v outputs from the configurable terminals.

Analogue Fixtures are defined in the fixtures xml file using as follows:
<Fixture Name="Analogue RGB" PortType="Analogue" Class="Colour">
-          <Channels>
                    <Channel Name="Red" ChannelType="RedBrightness" />
                    <Channel Name="Green" ChannelType="GreenBrightness" />
                    <Channel Name="Blue" ChannelType="BlueBrightness" />
</Channels>
</Fixture>

Define Triggers

Triggers are used to set how the user's actions will recall scenes or sequences. There are triggers provided for power-up, the contact inputs and the IR remote, though more may be created for timed events. To define triggers select the *Triggers* option from the *Configuration* Menu (see page **Error! Bookmark not defined**. for details of the *Configuration* menu).

Configuration
Scenes
Sequences
Triggers
Clock

Triggers
Power On
Contact Input 1
Contact Input 2
Contact Input 3
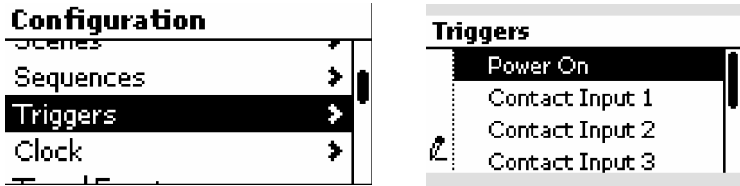
The triggers are:

| Trigger Name	Description
Power On	This action happens when the DMX Generator is first switched on.
Contact Input 1	What to do when a contact closure happens on contact input 1 For details on setting up the rear terminals see page 13.
Contact Input 2	What to do when a contact closure happens on contact input 2
Contact Input 3	What to do when a contact closure happens on contact input 3
IR Remote Button 1	What to do when the user presses button 1 on the IR handset
IR Remote Button 2	What to do when the user presses button 2 on the IR handset
IR Remote Button 3	What to do when the user presses button 3 on the IR handset
IR Remote Button 4	What to do when the user presses button 4 on the IR handset
IR Remote Button 5	What to do when the user presses button 5 on the IR handset
IR Remote Button 6	What to do when the user presses button 6 on the IR handset
IR Remote Button 7	What to do when the user presses button 7 on the IR handset
IR Remote Button 8	What to do when the user presses button 8 on the IR handset

Each trigger can recall any favourite. To change the actions performed by a trigger:

☞ Highlight the trigger in the *Triggers* menu

☞ Press the soft-key next to the ✐_ (edit) icon to show the *Configure Trigger* menu.

Triggers
Power On
Contact Input 1
Contact Input 2
Contact Input 3

Configure Trigger
✔ Trigger Enabled
Actions

Use the scroll wheel to highlight *Trigger Enabled* and press Select to toggle the tick on and off.

Use the scroll wheel to highlight *Actions* and press *Select*. A menu of favourites is shown.

Favourite as Action

✔ None
   Chartreuse
   Orange Red
   Royal Blue
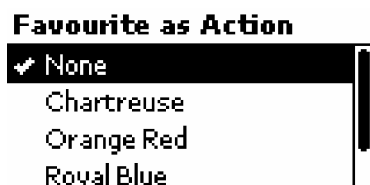
Use the scroll wheel to select the favourite which you require, and then press *Select* to tick it.
You may select any number or combination of favourites to trigger.

When you have finished selecting favourites press *Back* to return to the *Configuration* menu.

Clock Setup

The clock setup menu is access from the Configure menu. From here the current date and time may be set.

Clock

Time
09:33:37 03/09/2008
Latitude   + 051.813
Longitude   - 000.016
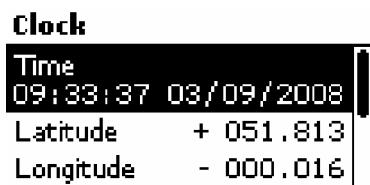
In order for the DMX controller to be able to calculate the sunrise/sunset times it needs to know it's position on Earth, using longitude and latitude.

If you do not know the longitude and latitude of your site, then you may use the postcode-lookup facility (UK only).

Clock

Postcode (First part only) ➤
SG9
....
Sunrise/Sunset
05:12:57/18:46:18

For reference, the resulting sunrise/sunset time for today is shown at the bottom of the menu. Timed events that use the real-time-clock or the sunrise/sunset calculation are configured using the *Timed Events* menu (see below).

Timed Events

DMX controller may be configured to perform the actions of a "favourite" at a specific time or at sunrise/sunset (with an offset, if required). Timed events may be set to occur only on specific days of the week.

The *Timed Events* menu is access from the *Configuration* menu.

Timed Events
```
+  [08:06:28] GREEN
✖  [13:16:00] BLUE
✎  [16:55:26] RED
```

To add a new timed event press the + button. The *Edit Timed Event* menu appears. Firstly, give the event a name. This is done using the text editor in the normal way.

Edit Timed Event
```
Name                    ➤
GREEN
Time Type [Sunrise]     ➤
Time          + 03:00:00
```
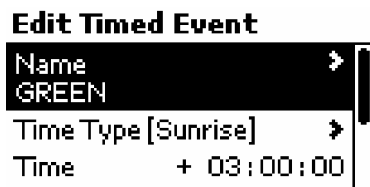
Set the type of event, either triggering at a specific GMT time, or using the built-in astronomical clock to trigger at a time determined by sunrise or sunset.

Time Type
```
   GMT
✔ Sunrise
   Sunset
```
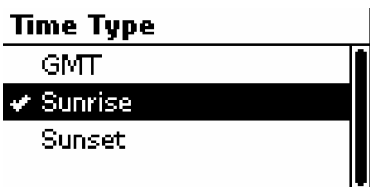
If you selected sunrise or sunset then the time becomes a + or – offset time for the event.

Events can be programmed to happen either at the same time on specific days of the week, or on a specific date in a specific month (e.g. New Year's Day). This is achieved using the *Date Type* option.

Edit Timed Event
```
Time Type [Sunrise]     ➤
Time          + 03:00:00
Date Type [Day/Month]   ➤
Date               30/08
```

Date Type
```
   Day/Month
✔ Days of week
```
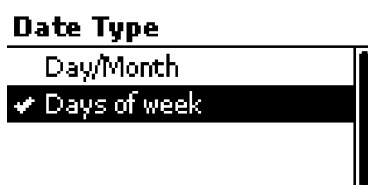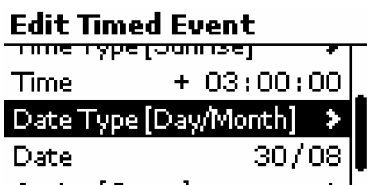
With the *Days of Week* option selected in *Date Type* you can specify which days of the week are to be used.

Edit Timed Event

Time	+ 03:00:00
Date Type [Days of week]	>
Date	**S M T W T F S**
Action [Green]	>

Days shown with a CAPITAL letter will be included, whereas the trigger will not happen on days shown with a lower-case letter.

Once you have configured the settings for your new timed event the DMX controller will ask you to confirm the changes made.

Edit Timed Event

GREEN	
Time Type [GMT]	>
Time	**15**:00:00
Date Type [Day/Month]	>

Do you want to save these changes to the timed event?

✔ **Yes** ✖ No ⏎ Back

Notes:
The outputs of timed events will not override the setting of the "Mute" button (bottom left) if it has been selected.

The Text Editor

The text editor enables items to be named using a mixture of upper and lower case alphanumeric characters, special accented characters and symbols.

Use the joystick to move the highlighted bar between characters, and the *Select* button to add the character that is currently highlighted to the text string shown in the title bar.

The soft-keys give access to additional character-sets and editing options:

Use „⇧" and „⇩ " to change between upper and lower case.

Use „é" to select foreign characters.

Use „I" to change between insert and overwrite modes.

The „⬅" symbol gives a backspace function.

Wall|

⇩	1	2	**3**	4	5	6	7	8	9	0
é	A	B	C	D	E	F	G	H	I	J
	K	L	M	N	O	P	Q	R	S	T
I	U	V	W	X	Y	Z	␣	⬅		

Wall3

⇧	1	2	3	4	5	6	7	8	9	0
é	**a**	b	c	d	e	f	g	h	i	j
	k	l	m	n	o	p	q	r	s	t
I	u	v	w	x	y	z	␣	⬅		

|

	.	,	:	;	!	@	&	?	(	)
	+	-	/	|	\	<	=	>	{	}
	*	%	µ	º	#	_	^	~	[	]
	×	÷	¹	²	³	¼	½	¾	⬅	

Network Operation

The DMX controller has two built-in network features for use on a TCP/IP network:

1. Built-in web server
The DMX controller serves a web page that gives access to all the favourites, scenes and sequences that have been created, as well as providing diagnostic feedback on the current DMX outputs.

Enter the IP address of the DMX controller into your web browser. (By default the DMX controller uses port 80 for the web page, which is also the default for web browsers, but this can be configured if you need to use port-forwarding to control several units that are on the same network through a router).
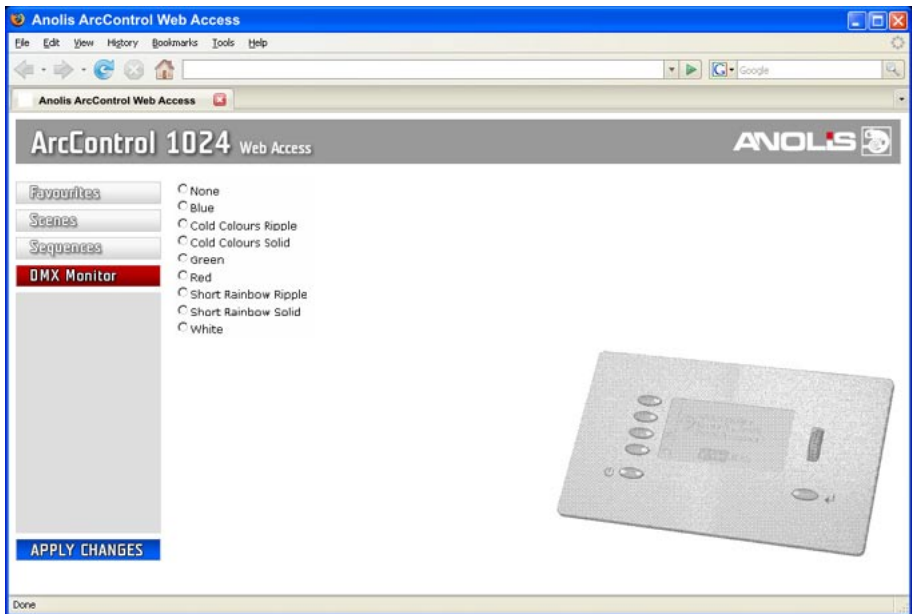
Use the buttons on the left of the browser window to select between *Favourites, Scenes, Sequences* or the *DMX Monitor* diagnostic view.
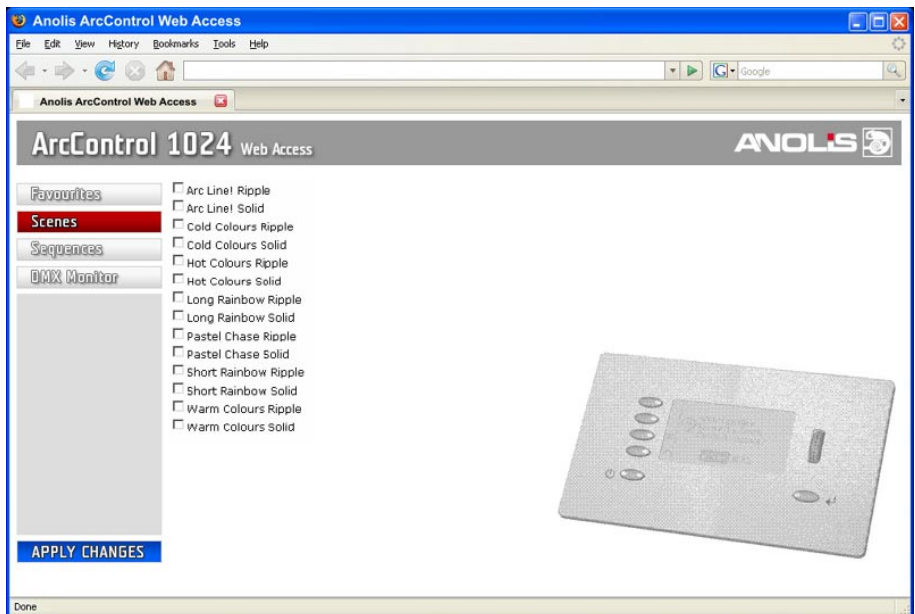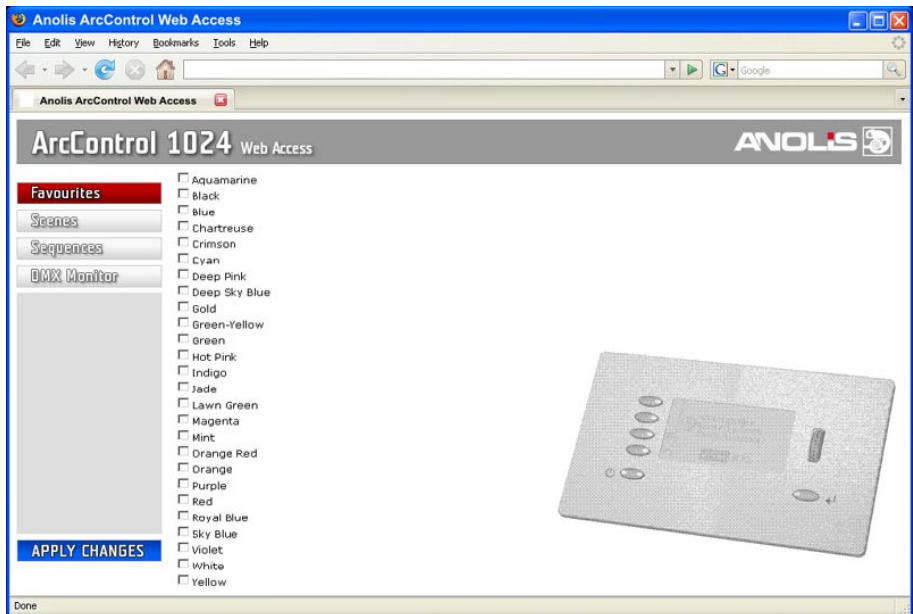
Select the scene or sequence that you wish to recall, and click Apply Changes
Diagnostic output is shown in real time, and displays both the channel level and the RGB
colour mix effect produced:
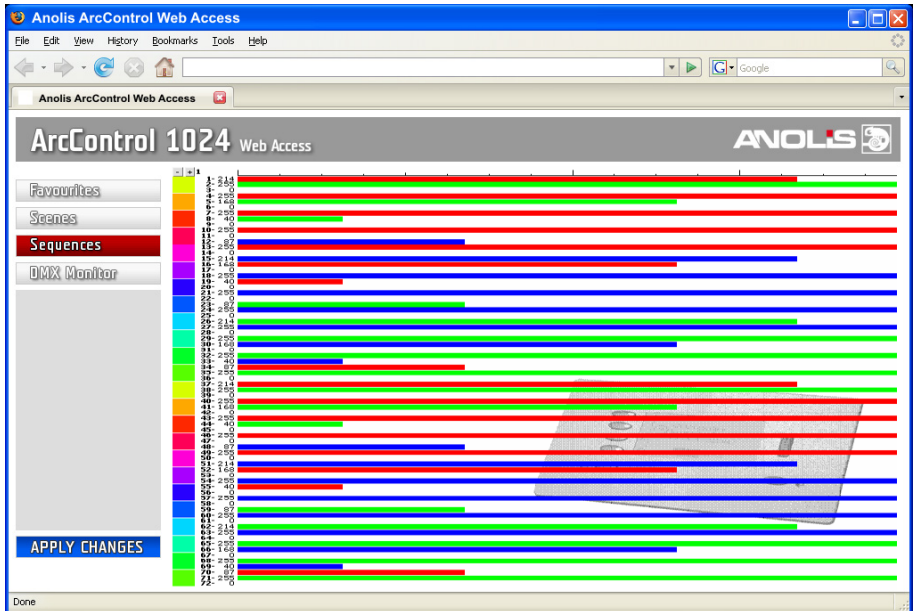
Telnet Commands

The DMX controller has a built-in library of commands accessed by telnet.

The following is a list of telnet commands, items shown in bold are most frequently used.

delete	Deletes a specified file.
dir	Lists the files stored within the file system.
enumerate	Enumerates a list of the system properties.
format	Erases the file system, deleting all files.
get	**Gets the value of a specified system property.**
help	Provides Help information for console commands.
press	Simulates user button presses.
trigger	Simulates a trigger event.
read	Sends a file to the client.
quit	Closes console connection.
scroll	Simulates user scroll wheel activity.
set	**Sets the value of a specified system property.**
setdmxchannel	**Sets a DMX channel to a specified value.**
write	Creates/Overwrites a file, with the specified data.
scene	**Recalls the scene with the specified name**
sequence	**Recalls the sequence specified**
favourite	**Recalls the favourite specified**
allstop	**Cancels any sequence/scene/favourite**
rescan	Force the device to rescan the file system and discover uploaded files.
clear	Clears the current lighting setup leaving the config files untouched.
home	Returns the main user interface to the Home Screen.
popup	Pops up a progress bar screen to the user.
track	Update the tracking status of the popup progress bar.
isidle :	Returns Yes if device is at home screen, No otherwise.

Using Telnet to Control Master Speed/Brightness

Master speed and brightness are system properties that can be modified and read using the "set" and "get" commands, e.g.:
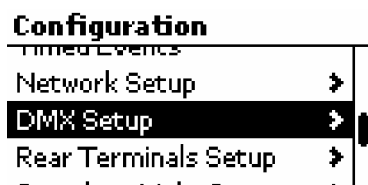
set MasterBrightness 100

set MasterSpeed 250

The port used for telnet can be configured using Network Setup.
By default it is the standard port 23.

DMX Configuration

DMX controller enables detailed configuration of every aspect of the DMX packet transmission and timing.
From the *Configuration* menu highlight *DMX Setup* and press *Select.*

Each parameter of the DMX packet transmission may be configured from the menu options given:

DMX Configuration

Channels	512
Packet Frequency	30Hz
Break Time	100µs
MaB Time	10µs

Sets the number of channels transmitted

DMX Configuration

Channels	512
Packet Frequency	30Hz
Break Time	100µs
MaB Time	10µs

Sets the timing of the start of the DMX packet

DMX Configuration

Packet Frequency	30Hz
Break Time	100µs
MaB Time	10µs
Interframe Time	5µs

Sets the Mark-after-break time

DMX Configuration

Break Time	100µs
MaB Time	10µs
Interframe Time	5µs
Start Code	0

Sets the delay between each set of (up to) 512 channels being transmitted

DMX Configuration

Channels	512
Packet Frequency	30Hz
Break Time	100µs
MaB Time	10µs

Sets the number of sets of (up to) 512 channels

DMX Configuration

Break Time	100µs
MaB Time	10µs
Interframe Time	5µs
Start Code	0

Sets the DMX start code. This should not be changed, and must always be 0 on DMX projects where RDM is being used.

Testing the DMX Output

DMX controller gives you immediate access to test the DMX output.
From the *DMX Configuration* menu scroll down to *Test DMX Universe A* or *Test DMX Universe B* and press *Select.*

The „*i*"soft-key changes the information displayed in the title bar to show either the channel name, or the name of the DMX fixture, belonging to the channel that's currently selected.
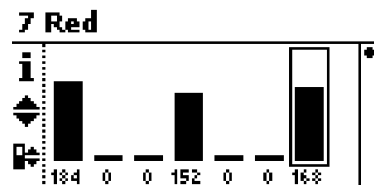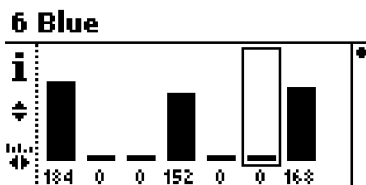
Pressing *Select* always moves you to the next channel.

The scroll wheel is either used to change the level of the channel which is currently selected, or to move forwards or backwards between channels.

The ⟷ soft-key is used to make the scroll wheel move between channels.

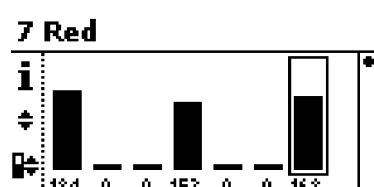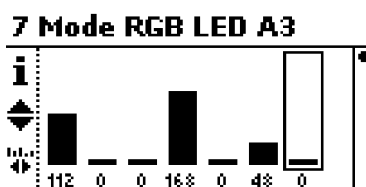The ⬚ soft-key is used to make the scroll wheel change a channel's level.

When changing the channel's level the speed of the scroll wheel can be adjusted:

The ⬍ soft-key is used to make coarse adjustments to the channel's level.

The ⬍| soft-key is used to make fine single-step adjustments to a level.

Network Configuration

The DMX controller can be assigned an IP address from a DHCP server, or it can be set to use a fixed IP address.

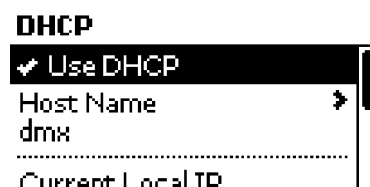From the configuration menu select *Network Setup.*

Using a DHCP Server

If the IP addresses of devices on your network are assigned automatically by a DHCP server (which may be your router or a server computer) then select DHCP from the *Network Setup* menu.
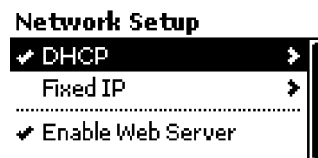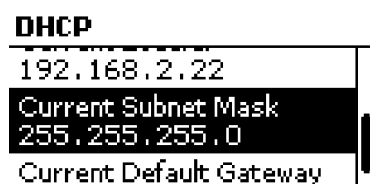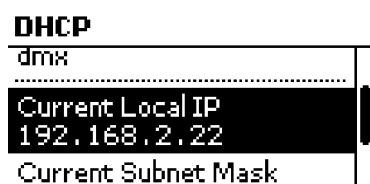

Ensure that *Use DHCP* option is ticked:

You may set the hostname, by scrolling down to the *HostName* option and pressing *Select*. A text editor is shown.

The IP address allocated to the DMX controller by the DHCP server is shown below, along with the subnet mask and the default gateway.
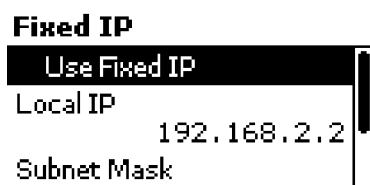
Using a Fixed IP Address

To use a fixed IP address select *Fixed IP* from the *Network Setup* menu and press *Select*.
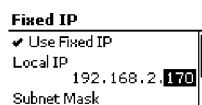
In the *Fixed IP* menu highlight *Use Fixed IP* and use the Select button to tick the option.

Network Setup
- ✔ DHCP ➤
- **Fixed IP** ➤
- ✔ Enable Web Server
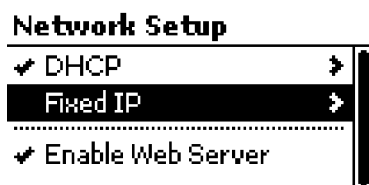
To set the IP address, use the scroll wheel to highlight *Local IP*.

Fixed IP
- **Use Fixed IP**
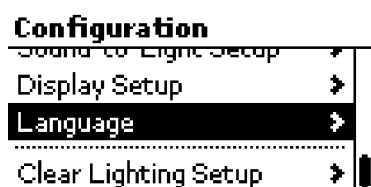- Local IP
  192.168.2.2
- Subnet Mask

Press *Select* to select the IP address for editing. The scroll wheel changes the number shown. Use *Select* to confirm, and move onto the next number.
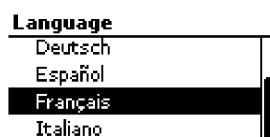
Fixed IP
- ✔ Use Fixed IP
- Local IP
  192.168.2.170
- Subnet Mask

Fixed IP
- ✔ Use Fixed IP
- Local IP
  192.**168**.2.170
- Subnet Mask

Fixed IP
- ✔ Use Fixed IP
- Local IP
  192.168.**2**.170
- Subnet Mask

Fixed IP
- ✔ Use Fixed IP
- Local IP
  192.168.2.**170**
- Subnet Mask

Language and Display Setup

To choose an alternative language choose *Language* from the *Configuration* Menu.

Configuration
- Sound to Light Setup ➤
- Display Setup ➤
- **Language** ➤
- Clear Lighting Setup ➤

Use the scroll wheel to select the language required:

Language
- ✔ English (UK)
- **English (US)**
- Deutsch
- Español

Language
- English (US)
- Deutsch
- **Español**
- Français

Language
- Deutsch
- Español
- **Français**
- Italiano
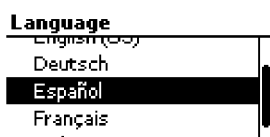
When you have highlighted the language required press Select to tick it.

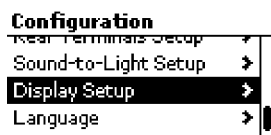Press Back to return to the configuration menu, in the new language selected.

Setting the Display Backlight Colour

The DMX controller has an RGB backlight, that illuminates when a control has been operated. After 20 seconds it is extinguished. You may select the backlight colour as follows:

From the *Configuration Menu* highlight *Display Setup* and press *Select.*

Press Select to reveal a list of backlight colour options.
Use the scroll wheel to highlight the colour you want, and then press *Select.*

Press *Back* twice to return to the *Configuration* menu.

The About Menu

The *About* menu is near the bottom of the *Configuration* menu:

This menu shows the firmware version installed in your DMX controller, along with the device's unique MAC address. It also gives quick access to seeing the DMX controller's current IP address.

Firmware Update

To update the firmware in the unit:
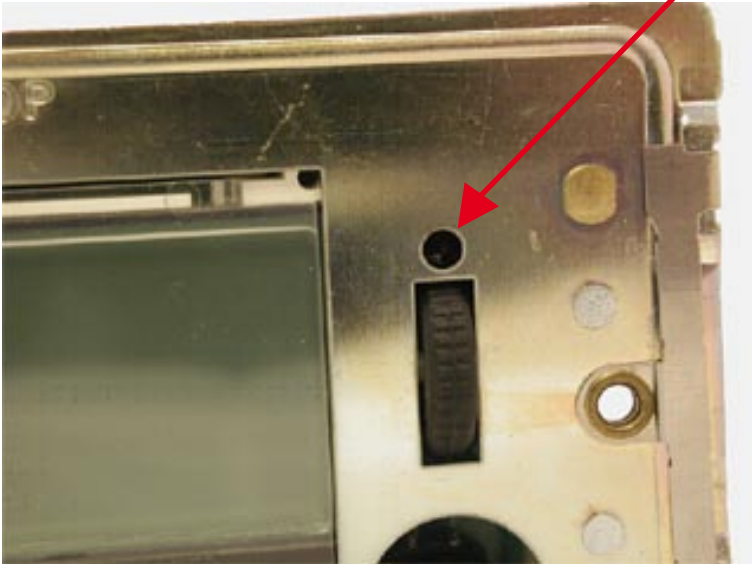
☞ Remove the front fascia.

☞ Make sure that the DMX controller is connected to either a network with a computer running the Firmware Server software.

☞ Press and hold *Select* and Mute (the top and bottom buttons on the left hand side)

☞ Whilst holding the above, press and release the concealed Reset button.

The DMX controller will request a firmware update from the server, and install its' new firmware automatically, which takes about 45 seconds.

When the firmware update is complete the DMX controller will restart automatically. Your configuration will be preserved.

Utility Software

Connecting Directly, Without a Network

If you are connecting your computer directly to the DMX Generator, and you are therefore not running on a network that has a DHCP server already then the utilities can provide a DHCP server for you.

If you already have a DHCP server on your network (this service is usually provided by the broadband router) then the DMX Generator will request and receive an IP address automatically. The IP address of the DMX Generator can be determined either using the Network Settings menu, or by looking at the *About* menu:

If you already have an IP address then there is no need to run the DHCP server from within the utilities.

(A DHCP server is a computer or device on a network that allocates unique IP addresses to devices/clients on the network)

To enable the DHCP server in any of the utilities tick the Serve DHCP box, and select the network card from which you wish to serve, by using the drop-down menu. (It is possible to have multiple network cards on a single computer, for example one cabled and one wireless).

☑ Serve DHCP on network card with IP :	192.168.2.52 ▾
☑ Allocate custom IP address to ColourStyle :	192.168.2.158

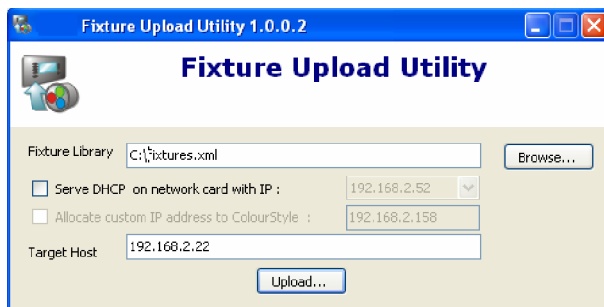## Modifying the DMX Fixture Library

To upload a replacement fixture definition library, use the *Fixture Upload Utility*.
Fixture definitions are given in XML format:

In order for the Quick Setup Assistant to create coloured scenes and sequences the fixtures, and the channels in the fixture, may be given special types, as shown below.

Fixture Class	Meaning
Colour	This fixture has a single RGB, or RGBW / RGBD colour system
MultiColour	This fixture has several independent colour-mixing outputs
Dimmer	The fixture is a single channel of generic control
MultiDimmer	The fixture is a multi-channel dimmer

Channel Type	Meaning
Brightness	Overall brightness control for the fixture. "Master" channels should use this type
RedBrightness GreenBrightness BlueBrightness WhiteBrightness	Brightness levels for individual channels within the fixture, used for colour mixing
DeviceSpecific	Any miscellaneous function for the channel, e.g. position, gobo, focus etc.

```
<Fixture Name="Generic RGBD" Manufacturer="Generic" Class="Colour">
        <Channels>
                <Channel Name="Red" ChannelType="RedBrightness" />
                <Channel Name="Green" ChannelType="GreenBrightness" />
                <Channel Name="Blue" ChannelType="BlueBrightness" />
                <Channel Name="Brightness" ChannelType="Brightness" />
   </Channels>
</Fixture>
```

Browse for the location of the XML file, enter the IP address of the target DMX Generator, and click *Upload…* to transfer the file.

Complete Configuration Backup / Restore

The configuration data from the DMX controller, which includes al fixtures, scenes, sequences, favourites, triggers and names can be extracted using the following utility.

All, or part of the configuration can also be restored.
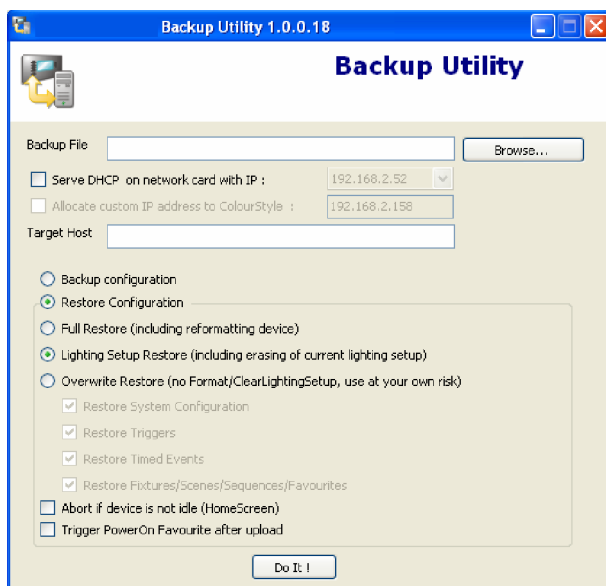
This utility can be used for copying data from one DMX controller to another.

It can also be used for remote updates if you have the DMX controller connected to a router with port-forwarding of the telnet port set up appropriately

Glossary of Terms

Channel   A DMX or analogue output

Universe   A group of 512 DMX channels, or the group of three analogue channels on the rear of the product. The DMX generator has 2 DMX universes.

Fixture   A pre-defined DMX device containing channels

Scene   A target state for one or more channels which will fade to the new values over a preset time (1/10th sec to 99 hours). More than one scene may be active simultaneously.

Sequence   A number of scenes, recalled automatically over time. More than one sequence may be running simultaneously.

Favourite   A scene or sequence with a master brightness and master speed setting that can be recalled by a trigger, or from the Favourites menu.

Ripple   An advanced method of copying a scene in order to make creation of patterned sequences easy

Triggers   An input to the system that recalls a scene or sequence. Triggers include user-mode buttons, the real-time-clock and the three configurable-inputs on the rear of the product.

Telnet   A standard text-based method of communication with network-enabled devices, a little bit like RS232, but over Ethernet to send commands or to get data

Locale   The country in which you are using the DMX Generator, which includes the language into which all text will be translated

Logo   The pre-programmed 128x64 pixel black&white image displayed at start-up. This may be set using PC software

IP Address   The network address of the product, e.g. 192.168.2.38

DHCP   The DHCP server is a computer on the network that assigns IP addresses to other computers or networked devices.